

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 21 May 2001 (21.05.01)	Applicant's or agent's file reference P24556A/PPP
International application No. PCT/GB00/03413	
International filing date (day/month/year) 07 September 2000 (07.09.00)	Priority date (day/month/year) 07 September 1999 (07.09.99)
Applicant HAMILTON, Sheila et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 05 April 2001 (05.04.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Olivia TEFY Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF RECEIPT OF
RECORD COPY(PCT Rule 24.2(a))
PTO/PCT Rec'd 07 MAR 2002

To:

**MURGITROYD
& COMPANY**PACITTI, Paolo
Murgitroyd & Company
373 Scotland Street
Glasgow G5 8QA
ROYAUME-UNIE
23 OCT 2000
PPP

Date of mailing (day/month/year) 17 October 2000 (17.10.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference P24556A/PPP	International application No. PCT/GB00/03413

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

TEKNEK ELECTRONICS LIMITED (for all designated States except US)
HAMILTON, Sheila et al (for US)

International filing date : 07 September 2000 (07.09.00)
Priority date(s) claimed : 07 September 1999 (07.09.99)
10 February 2000 (10.02.00)

Date of receipt of the record copy
by the International Bureau : 27 September 2000 (27.09.00)

List of designated Offices :

AP : GH,GM,KE,LS,MW,MZ,SD,SL,SZ,TZ,UG,ZW
EA : AM,AZ,BY,KG,KZ,MD,RU,TJ,TM
EP : AT,BE,CH,CY,DE,DK,ES,FI,FR,GB,GR,IE,IT,LU,MC,NL,PT,SE
OA : BF,BJ,CF,CG,CI,CM,GA,GN,GW,ML,MR,NE,SN,TD,TG
National : AE,AG,AL,AM,AT,AU,AZ,BA,BB,BG,BR,BY,BZ,CA,CH,CN,CR,CU,CZ,DE,DK,DM,DZ,EE,
ES,FI,GB,GD,GE,GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KP,KR,KZ,LC,LK,LR,LS,LT,LU,LV,MA,
MD,MG,MK,MN,MW,MX,MZ,NO,NZ,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,TZ,UA,UG,US,
UZ,VN,YU,ZA,ZW

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer: R. Raissi
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

Continuation of Form PCT/IB/301
NOTIFICATION OF RECEIPT OF RECORD COPY

Date of mailing (day/month/year) 17 October 2000 (17.10.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference P24556A/PPP	International application No. PCT/GB00/03413

ATTENTION

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase
- ☐ confirmation of precautionary designations
- ☒ requirements regarding priority documents

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

INFORMATION ON TIME LIMITS FOR ENTERING THE NATIONAL PHASE

The applicant is reminded that the "national phase" must be entered before each of the designated Offices indicated in the Notification of Receipt of Record Copy (Form PCT/IB/301) by paying national fees and furnishing translations, as prescribed by the applicable national laws.

The time limit for performing these procedural acts is **20 MONTHS** from the priority date or, for those designated States which the applicant elects in a demand for international preliminary examination or in a later election, **30 MONTHS** from the priority date, provided that the election is made before the expiration of 19 months from the priority date. Some designated (or elected) Offices have fixed time limits which expire even later than 20 or 30 months from the priority date. In other Offices an extension of time or grace period, in some cases upon payment of an additional fee, is available.

In addition to these procedural acts, the applicant may also have to comply with other special requirements applicable in certain Offices. It is the applicant's responsibility to ensure that the necessary steps to enter the national phase are taken in a timely fashion. Most designated Offices do not issue reminders to applicants in connection with the entry into the national phase.

For detailed information about the procedural acts to be performed to enter the national phase before each designated Office, the applicable time limits and possible extensions of time or grace periods, and any other requirements, see the relevant Chapters of Volume II of the PCT Applicant's Guide. Information about the requirements for filing a demand for international preliminary examination is set out in Chapter IX of Volume I of the PCT Applicant's Guide.

GR and ES became bound by PCT Chapter II on 7 September 1996 and 6 September 1997, respectively, and may, therefore, be elected in a demand or a later election filed on or after 7 September 1996 and 6 September 1997, respectively, regardless of the filing date of the international application. (See second paragraph above.)

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

CONFIRMATION OF PRECAUTIONARY DESIGNATIONS

This notification lists only specific designations made under Rule 4.9(a) in the request. It is important to check that these designations are correct. Errors in designations can be corrected where precautionary designations have been made under Rule 4.9(b). The applicant is hereby reminded that any precautionary designations may be confirmed according to Rule 4.9(c) before the expiration of 15 months from the priority date. If it is not confirmed, it will automatically be regarded as withdrawn by the applicant. There will be no reminder and no invitation. Confirmation of a designation consists of the filing of a notice specifying the designated State concerned (with an indication of the kind of protection or treatment desired) and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.

REQUIREMENTS REGARDING PRIORITY DOCUMENTS

For applicants who have not yet complied with the requirements regarding priority documents, the following is recalled.

Where the priority of an earlier national, regional or international application is claimed, the applicant must submit a copy of the said earlier application, certified by the authority with which it was filed ("the priority document") to the receiving Office (which will transmit it to the International Bureau) or directly to the International Bureau, before the expiration of 16 months from the priority date, provided that any such priority document may still be submitted to the International Bureau before that date of international publication of the international application, in which case that document will be considered to have been received by the International Bureau on the last day of the 16-month time limit (Rule 17.1(a)).

Where the priority document is issued by the receiving Office, the applicant may, instead of submitting the priority document, request the receiving Office to prepare and transmit the priority document to the International Bureau. Such request must be made before the expiration of the 16-month time limit and may be subjected by the receiving Office to the payment of a fee (Rule 17.1(b)).

If the priority document concerned is not submitted to the International Bureau or if the request to the receiving Office to prepare and transmit the priority document has not been made (and the corresponding fee, if any, paid) within the applicable time limit indicated under the preceding paragraphs, any designated State may disregard the priority claim, provided that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity to furnish the priority document within a time limit which is reasonable under the circumstances.

Where several priorities are claimed, the priority date to be considered for the purposes of computing the 16-month time limit is the filing date of the earliest application whose priority is claimed.

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

To:

MURGITROYD
& COMPANYPACITTI, Paolo
Murgitroyd & Company
373 Scotland Street
Glasgow G5 8QA
ROYAUME-UNIE

8 DEC 2000

Date of mailing (day/month/year) 13 November 2000 (13.11.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference P24556A/PPP	
International application No. PCT/GB00/03413	
International filing date (day/month/year) 07 September 2000 (07.09.00)	
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 07 September 1999 (07.09.99)
Applicant TEKNEK ELECTRONICS LIMITED et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
07 Sept 1999 (07.09.99)	9920973.6	GB	27 Octo 2000 (27.10.00)
10 Febr 2000 (10.02.00)	0002996.7	GB	27 Octo 2000 (27.10.00)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

Taïeb Akreimi

Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

To:

Murgitroyd & Company
Attn. PACITTI, P.
373 Scotland Street
Glasgow G5 8QA
UNITED KINGDOM

MURGITROYD
& COMPANY

15 JAN 2001

Date of mailing
(day/month/year)

16/01/2001

Applicant's or agent's file reference

P24556A/PPP

FOR FURTHER ACTION

See paragraphs 1 and 4 below

International application No.

PCT/GB 00/ 03413

International filing date
(day/month/year)

07/09/2000

Applicant

TEKNEK ELECTRONICS LIMITED et al.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority

European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

John Berry

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P24556A/PPP	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 00/03413	International filing date (day/month/year) 07/09/2000	(Earliest) Priority Date (day/month/year) 07/09/1999
Applicant TEKNEK ELECTRONICS LIMITED et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 02 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

2

None of the figures.

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

PACITTI, Paolo
Murgitroyd & Company
373 Scotland Street
Glasgow G5 8QA
ROYAUME-UNIMURGITROYD
& COMPANY

26 MAR 2001

COMP

Date of mailing (day/month/year) 15 March 2001 (15.03.01)		Applicant's or agent's file reference P24556A/PPP	
International application No. PCT/GB00/03413		International filing date (day/month/year) 07 September 2000 (07.09.00)	Priority date (day/month/year) 07 September 1999 (07.09.99)
Applicant TEKNEK ELECTRONICS LIMITED et al			

IMPORTANT NOTICE

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:
AU, KP, KR, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EA, EE, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OA, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 15 March 2001 (15.03.01) under No. WO 01/17882

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

J. Zahra

Facsimile No. (41-22) 740.14.35

Telephone No. (41-22) 338.83.38

**NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF
THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES**

Date of mailing (day/month/year) 15 March 2001 (15.03.01)	IMPORTANT NOTICE
Applicant's or agent's file reference P24556A/PPP	International application No. PCT/GB00/03413

The applicant is hereby notified that, at the time of establishment of this Notice, the time limit under Rule 46.1 for making amendments under Article 19 has not yet expired and the International Bureau had received neither such amendments nor a declaration that the applicant does not wish to make amendments.

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PTO/PCT Rec'd 07 MAR 2002

INFORMATION CONCERNING ELECTED
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

To:

PACITTI, Paolo
Murgitroyd & Company
373 Scotland Street
Glasgow G5 8QA
ROYAUME-UNI

Date of mailing (day/month/year) 21 May 2001 (21.05.01)		
Applicant's or agent's file reference P24556A/PPP		IMPORTANT INFORMATION
International application No. PCT/GB00/03413	International filing date (day/month/year) 07 September 2000 (07.09.00)	
		Priority date (day/month/year) 07 September 1999 (07.09.99)
Applicant TEKNEK ELECTRONICS LIMITED et al		

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

EP : AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

National : AU, BG, CA, CN, CZ, DE, IL, JP, KP, KR, MN, NO, NZ, PL, RO, RU, SE, SK, US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

AP : GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW

EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

OA : BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

National : AE, AG, AL, AM, AT, AZ, BA, BB, BR, BY, BZ, CH, CR, CU, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MW, MX, MZ, PT, SD, SG, SI, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

MURGITROYD
& COMPANY

30 MAY 2001

CODE

APP

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

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PATENT COOPERATION TREATY

PCT

PTO/PTA REG 0.07 MAR 2002

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference /.		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/03413	International filing date (day/month/year) 07/09/2000	Priority date (day/month/year) 07/09/1999	
International Patent Classification (IPC) or national classification and IPC B65H23/02			
Applicant TEKNEK ELECTRONICS LIMITED et al.			



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 05/04/2001	Date of completion of this report 14.11.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Pollet, D Telephone No. +49 89 2399 7516 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB00/03413**

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):
- Description, pages:**

1-7 as originally filed

Claims, No.:

1-9 as originally filed

Drawings, sheets:

1/9-9/9 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB00/03413**

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-9
	No: Claims
Inventive step (IS)	Yes: Claims
	No: Claims 1-9
Industrial applicability (IA)	Yes: Claims 1-9
	No: Claims

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Reference is made to the following documents:

- D1: US-A-4 572 417
- D2: US-A-5 387 962
- D3: US-A-4 344 693
- D4: US-A-4 018 555

The document D4 was not cited in the international search report.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The subject-matter of independent claim 1 can not be considered as involving an inventive step in the sense of Article 33(3) PCT for the following reason:

Document D1, which is regarded as the closest prior art, describes a web guidance system (see Fig. 1) which incorporates web cleaning means (40), the system comprising at least one guiding roller (22) controllable to effect guiding of the web (12), and at least a first cleaning roller (40). The subject-matter of claim 1 differs from what has been disclosed in document D1 in that the at least one guiding roller has an outer surface coated with a material having a degree of tackiness capable of removing particulates from a surface of the web.

However, using a tacky roller as a cleaning roller is well known in the art, see e.g. document D4, col. 2, l. 8-18 and is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances. Hence, it would be obvious to the person skilled in the art, namely when the same result is to be achieved, to apply this type of cleaning roller with corresponding effect in a web guidance system according to document D1, thereby arriving at a system according to claim 1. The subject-matter of claim 1 does therefore not involve an inventive step (Article 33(3) PCT).

Note that also documents D2 and D3 disclose substantially the same subject-matter as document D1.

2. Dependent claims 2-9 do not appear to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of Article 33(3) PCT. The features herein disclosed appear to be merely some of several constructional possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill. Hints thereto could easily be taken from the above mentioned documents for example:

re claim 2:

The web guidance system described in document D2 comprises a second cleaning roller (38, G).

re claim 5:

In document D4, the cleaning roller (54) is provided with a backup roller (60) arranged to engage the cleaning roller and having a surface coated with a material having a degree of tackiness greater than that of the cleaning roller (col. 5, l. 12-39).

re claim 7:

The web guidance system according to document D1 includes a feedback control loop (66) (see Fig. 4) which comprises an edge sensor (68) for sensing the position of the web edge, and an actuator (64) arranged to rotate (col. 4, l. 18-35) the guiding roller (22) in response to the output of the edge sensor.

3. Since it appears that the claimed invention can be made or used in a technological sense in industry, the claimed invention appears to have industrial applicability within the meaning of Article 33(4) PCT.

Re Item VII

Certain defects in the international application

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D4 is not mentioned in the description, nor are these documents identified therein. Further, document(s) reflecting the prior art described on page 1, l. 7-16, is not identified in the description.

The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (e.g. document D1) being placed in a preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in a characterising part (Rule 6.3(b)(ii) PCT).

According to the requirements of Rule 11.13(m) PCT the same feature shall be denoted by the same reference sign throughout the application. This requirement is not met in view of the following references:

- p. 5, l. 25: 'lower cleaning roller 24B' should be 'lower cleaning roller 23A';
- p. 6, l. 14: 'static device 2' should be 'static device 26'.

In the description on page 2, line 6-7 is incomprehensible.

Re Item VIII

Certain observations on the international application

The embodiment of the invention described on page 7, l. 5-14 and shown in figure 7 does not fall within the scope of the claims (i.e. no guiding roller). This inconsistency between the claims and the description leads to doubt concerning the matter for which protection is sought, thereby rendering the claims unclear (Article 6 PCT).

Claim 1 broadly defines that the guiding roller is *controllable* to effect guiding of the web. However, the description and drawings convey the impression that this 'function' can only be carried out in a particular way, namely by rotating the complete system (i.e. guiding roller(s) and mounting plates) about a vertical axis at the midlength of the system, and no alternative means are envisaged. Hence, claim 1 is not supported by the description as required by Article 6 PCT.

The vague and imprecise statement in the last paragraph of the description on

page 7 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them (see also the PCT Guidelines, III-4.3a).

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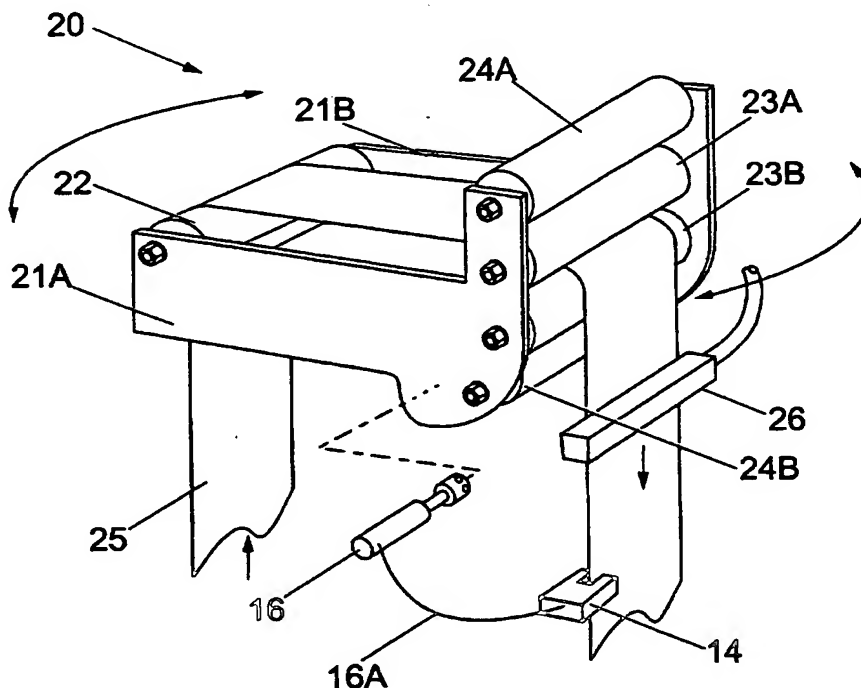
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[Continued on next page]

(54) Title: **WEB GUIDANCE SYSTEM**



(57) Abstract: A system (20) for handling a web (25) combines guiding and cleaning functions. A guiding roller (22) and upper and lower cleaning rollers (23A, 23B) are mounted in a frame (21) which can be rotated about an axis transverse to the rollers (22, 23A, 23B) to guide the web (25). Other combinations of guiding and cleaning rollers are disclosed.

WO 01/17882 A1



— Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

1 **"Web Guidance System"**

2

3 The present invention relates to a web guidance system
4 and in particular to a web guidance system capable of
5 web cleaning.

6

7 It is known in production processes to make use of webs
8 which require to be cleaned. Such webs are thin,
9 generally plastic materials and web guidance systems
10 are well known in the art. Webs are prone to run off
11 track easily and the web guidance systems are used to
12 keep the web on a desired track.

13

14 Web cleaning systems are also known in the art, these
15 cleaning systems being used to remove particulates from
16 at least one surface of the web.

17

18 In the past it has been the practice to use separate
19 web cleaning systems and web guidance systems. The
20 surface of a cleaning roller is formed of elastomeric

1 material which is compressible. This compressibility
2 means that when the web is placed in tension over the
3 cleaning roller the web can deviate from track, and
4 this factor has caused cleaning rollers to be thought
5 not to be suitable for use also as guidance rollers
6 which has inhibited the development or use of combined
7 cleaning/guidance systems. system can malfunction.

8
9 According to invention, there is provided a web
10 guidance system which incorporates web cleaning means,
11 the system comprising at least one guiding roller
12 controllable to effect guiding of the web, and at least
13 a first cleaning roller having an outer surface coated
14 with a material having a degree of tackiness capable of
15 removing particulates from a surface of the web.

16
17 The system may include a second cleaning roller having
18 an outer surface coated with a material having a degree
19 of tackiness capable of removing particulates from the
20 other surface of the web.

21
22 One of the cleaning rollers may constitute the guiding
23 roller.

24
25 Preferably, the cleaning roller which constitutes the
26 guiding roller has a surface hardness greater than that
27 of the other cleaning roller.

28
29 Preferably also, the or each cleaning roller is
30 provided with a respective backup roller arranged to
31 engage the cleaning roller and having a surface coated
32 with a material having a degree of tackiness greater

1 than that of the cleaning roller for removing
2 particulates from the cleaning roller.

3
4 In preferred embodiments, the several rollers are
5 mounted for rotation about parallel roller rotation
6 axes in a common frame, the frame being rotatable about
7 a frame rotation axis which is perpendicular to said
8 roller rotation axes; and the system suitably includes
9 a feedback control loop which comprises an edge sensor
10 for sensing the position of the web edge at a location
11 downstream of the rollers, and an actuator arranged to
12 rotate said frame about the frame rotation axis in
13 response to the output of the edge sensor.

14
15 Cleaning may take place at an upstream side or at a
16 downstream side of the system.

17
18 Embodiments of the present invention will now be
19 described, by way of example only, with reference to
20 the accompanying drawings, in which:

21
22 Fig. 1 is a schematic isometric view of a web
23 guidance system as known in the art;

24
25 Fig. 2 is a schematic isometric view of one
26 embodiment of the present invention; and

27
28 Figs. 3 to 9 are views similar to fig. 2 of
29 alternative embodiments of the invention.

30
31 Fig. 1 illustrates web guiding apparatus 10 as is known
32 in the art. The web guiding apparatus 10 comprises a

1 mounting plate 11 on which a first guiding roller 12
2 and a second guiding roller 13 are mounted for rotation
3 about spaced horizontal axes. A web 15 is placed in
4 tension over the first and second guiding rollers 12
5 and 13. The web guiding apparatus 10 further comprises
6 an edge sensor 14 for detecting the edge of the web and
7 ensuring that the web 15 is running on track. When the
8 sensor 14 detects that the web 15 is moving off track
9 then a suitable control system is activated. The
10 control system comprises a feedback loop 16A driving a
11 linear actuator 16 which is arranged to rotate the
12 mounting plate 11 about a central vertical axis. Thus,
13 the linear actuator 16 causes the axes of the guiding
14 rollers 12 and 13 to swivel in a horizontal plane, in
15 order to cause the web 15 to track in the desired
16 direction. The feedback loop 16A continues to operate
17 the linear actuator 16 until the sensor 14 detects that
18 the web 15 is in the desired location.

19

20 Referring to Fig. 2, there is illustrated one
21 embodiment of a web guidance system 20 in accordance
22 with the present invention, which includes web cleaning
23 apparatus for cleaning both the upper and lower
24 surfaces of the web 25. The system 20 comprises
25 mounting plates 21A and 21B adapted to mount an input
26 roller 22, an upper cleaning roller 23A, a lower
27 cleaning roller 23B, a first back-up roller 24A and a
28 second back-up roller 24B. The various rollers rotate
29 about parallel, horizontal axes, while the mounting
30 plates are mounted (by means not shown) to rotate about
31 a vertical axis at the midlength of the assembly.

32

1 The web 25 is fed over the input roller 22 then between
2 the upper and lower cleaning rollers 23A and 23B. The
3 web then passes an anti-static device 26, which removes
4 static built up through the system. An edge sensor 14,
5 feedback loop 16A and linear actuator 16 are provided
6 which operate as in the prior art system to keep the
7 web 25 on the desired track.

8

9 As will be evident, the lower cleaning roller 23B also
10 acts as a web guiding roller equivalent to the web
11 guiding roller 12 of the prior art design shown in
12 Fig. 1. In order for the web guidance aspect of this
13 embodiment to operate efficiently, the web 25 must be
14 in tension over the guiding roller 23B.

15

16 Normally, cleaning rollers, by their nature, are not as
17 hard as guiding rollers, because the cleaning rollers
18 generally use elastomeric materials and have a degree
19 of "give". This means that when the web 25 is put in
20 tension over the lower cleaning roller 23B, it is
21 compressed and the web guiding system may not operate
22 effectively.

23

24 However, in this present embodiment, the surface of the
25 lower cleaning roller 24B is harder than the surface of
26 the upper cleaning roller 23A. Therefore, the lower
27 cleaning roller 23B has less "give" than the upper
28 cleaning roller 23A thus allowing the guidance aspect
29 of the embodiment to function properly.

30

31 The web cleaning system operates in a manner that is
32 well known in the prior art, that is, having upper and

1 lower cleaning rollers 23A and 23B respectively, both
2 having first degrees of adhesive tackiness to remove
3 particulates from the upper and lower surfaces of the
4 web 25, respectively. These upper and lower cleaning
5 rollers 23A and 23B engage first and second back-up
6 rollers 24A and 24B, respectively. These first and
7 second back-up rollers 24A and 24B have second degrees
8 of adhesive tackiness for removing the particulates
9 from the upper and lower cleaning rollers 23A and 23B.

10

11 Alternative embodiments will now be described with
12 reference to Figs. 3 to 9. In these Figures like parts
13 are denoted by like reference numerals, and the anti-
14 static device 2 and the edge detector 14 and feedback
15 system 16, 16A have been omitted but operate as before.

16

17 In Fig. 3, a mounting plate 11 is pivoted on a support
18 30. Two rollers are rotatably carried by the mounting
19 plate 11: a cleaning roller 23A at the input side, and
20 a guiding roller 13 at the output side.

21

22 In Fig. 4, the mounting plate 11 carries guiding
23 rollers 12 and 13, the guiding roller 13 at the output
24 end having associated therewith a cleaning roller 23A
25 and adhesive backup roller 24A. Fig. 5 is similar, but
26 the cleaning roller 23A and backup roller 24A are
27 positioned at the input end.

28

29 The embodiments of Figs. 3 to 5 are therefore suitable
30 for cleaning only one side of the web. The embodiments
31 shown in Figs. 6 to 9 clean both sides of the web.

32

1 Fig. 6 is similar to Fig. 5, but the input end guiding
2 roller is replaced by a second cleaning roller 23B and
3 backup roller 24B.

4
5 Fig. 7 shows an arrangement in which the web 25 passes
6 through the system substantially linearly, supported by
7 non-steerable infeed and outfeed rollers 70 and 71.
8 Upper and lower cleaning rollers 23A and 23B and backup
9 rollers 24A and 24B are rotatably mounted, as shown
10 only schematically, on a carrier 72 to form an
11 assembly 73 which can be rotated about a vertical axis
12 on a base 74. The assembly 73 is rotated under
13 feedback control as before to correct the track of the
14 web.

15
16 Fig. 8 shows an assembly 73 similar to that of Fig. 7,
17 but mounted within a mounting plate 11 which also
18 carries guiding rollers 12 and 13. Fig. 9 is similar
19 functionally to Fig. 8, but the assembly 73 is secured
20 by readily accessible bolts 90 into a modified mounting
21 plate 91 such that the assembly 73 can readily be
22 removed and replaced in a modular manner.

23
24 Modifications and improvements may be made to the
25 foregoing within the scope of the present invention.

26

1 CLAIMS

2

3 1. A web guidance system which incorporates web
4 cleaning means, the system comprising at least one
5 guiding roller controllable to effect guiding of
6 the web, and at least a first cleaning roller
7 having an outer surface coated with a material
8 having a degree of tackiness capable of removing
9 particulates from a surface of the web.

10

11 2. A web guidance system according to claim 1,
12 including a second cleaning roller having an outer
13 surface coated with a material having a degree of
14 tackiness capable of removing particulates from
15 the other surface of the web.

16

17 3. A web guidance system according to claim 2, in
18 which one of the cleaning rollers constitutes the
19 guiding roller.

20

21 4. A web guidance system according to claim 3, in
22 which the cleaning roller which constitutes the
23 guiding roller has a surface hardness greater than
24 that of the other cleaning roller.

25

26 5. A web guidance system according to any preceding
27 claim, in which the or each cleaning roller is
28 provided with a respective backup roller arranged
29 to engage the cleaning roller and having a surface
30 coated with a material having a degree of
31 tackiness greater than that of the cleaning roller

1 for removing particulates from the cleaning
2 roller.

3

4 6. A web guidance system according to any preceding
5 claim, in which the several rollers are mounted
6 for rotation about parallel roller rotation axes
7 in a common frame, the frame being rotatable about
8 a frame rotation axis which is perpendicular to
9 said roller rotation axes.

10

11 7. A web guidance system according to claim 6,
12 including a feedback control loop which comprises
13 an edge sensor for sensing the position of the web
14 edge at a location downstream of the rollers, and
15 an actuator arranged to rotate said frame about
16 the frame rotation axis in response to the output
17 of the edge sensor.

18

19 8. A web guidance system according to any preceding
20 claim, in which cleaning takes place at an
21 upstream side of the system.

22

23 9. A web guidance system according to any of claims 1
24 to 7, in which cleaning takes place at a
25 downstream side of the system.

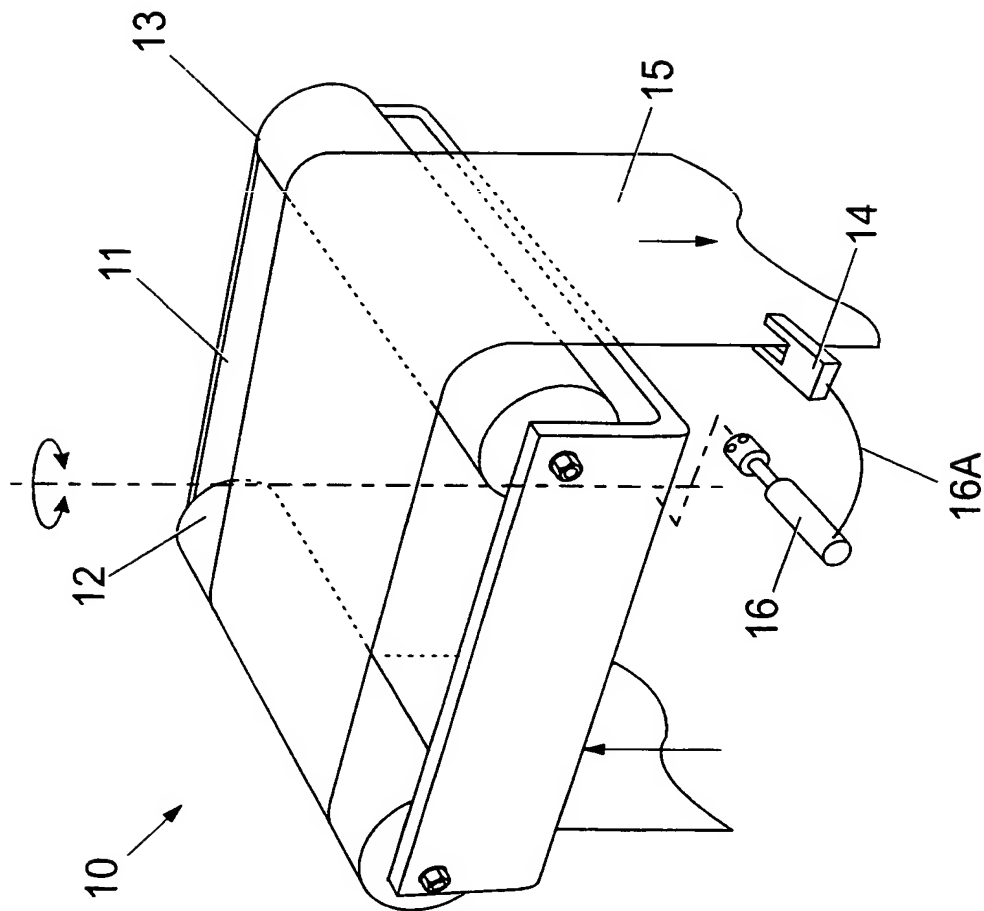


Fig. 1

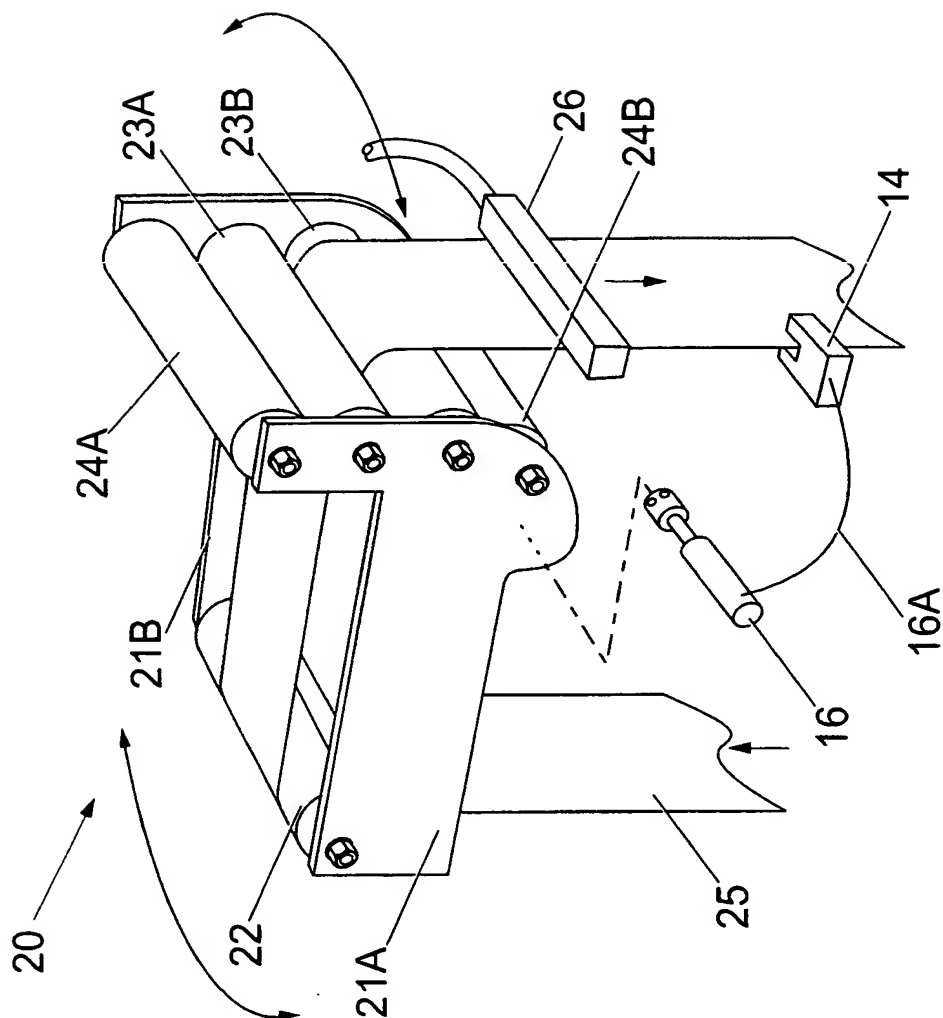


Fig. 2

3 / 9

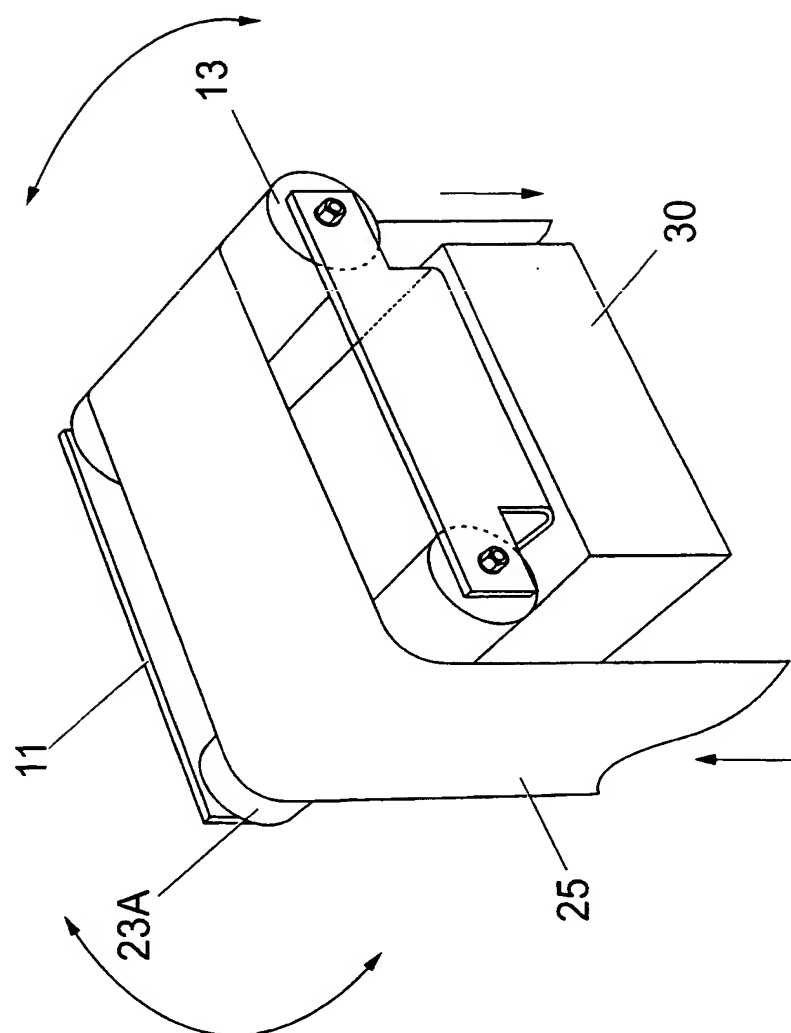


Fig. 3

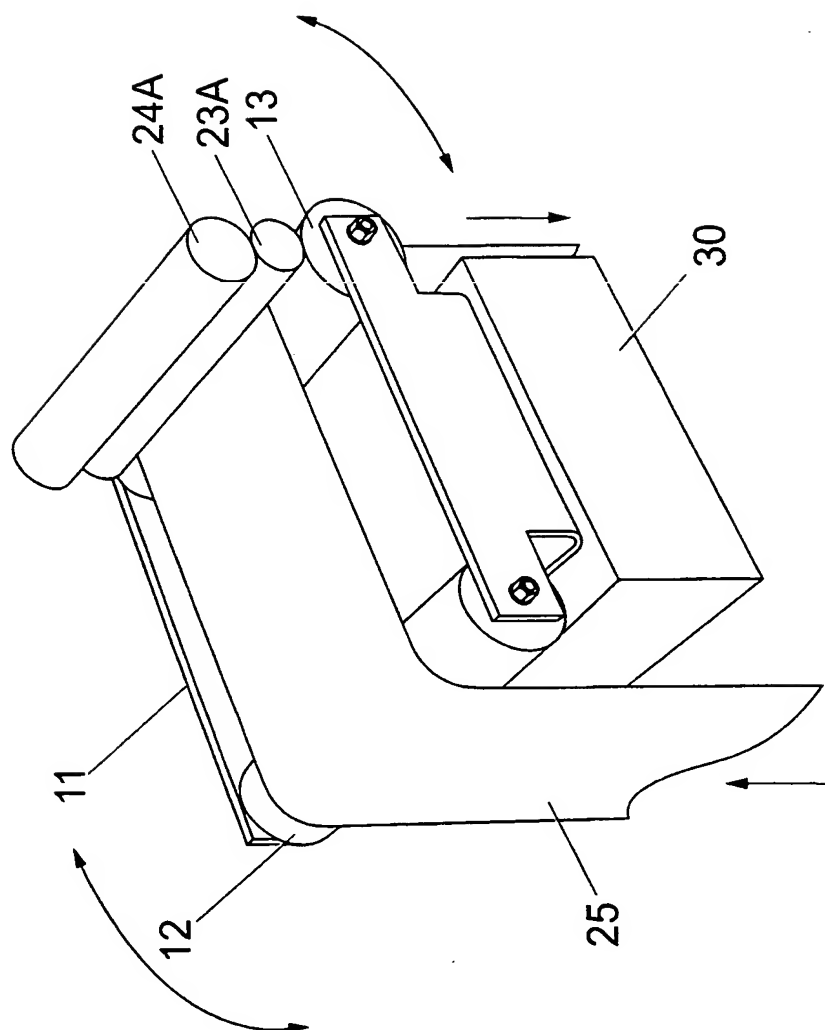


Fig. 4

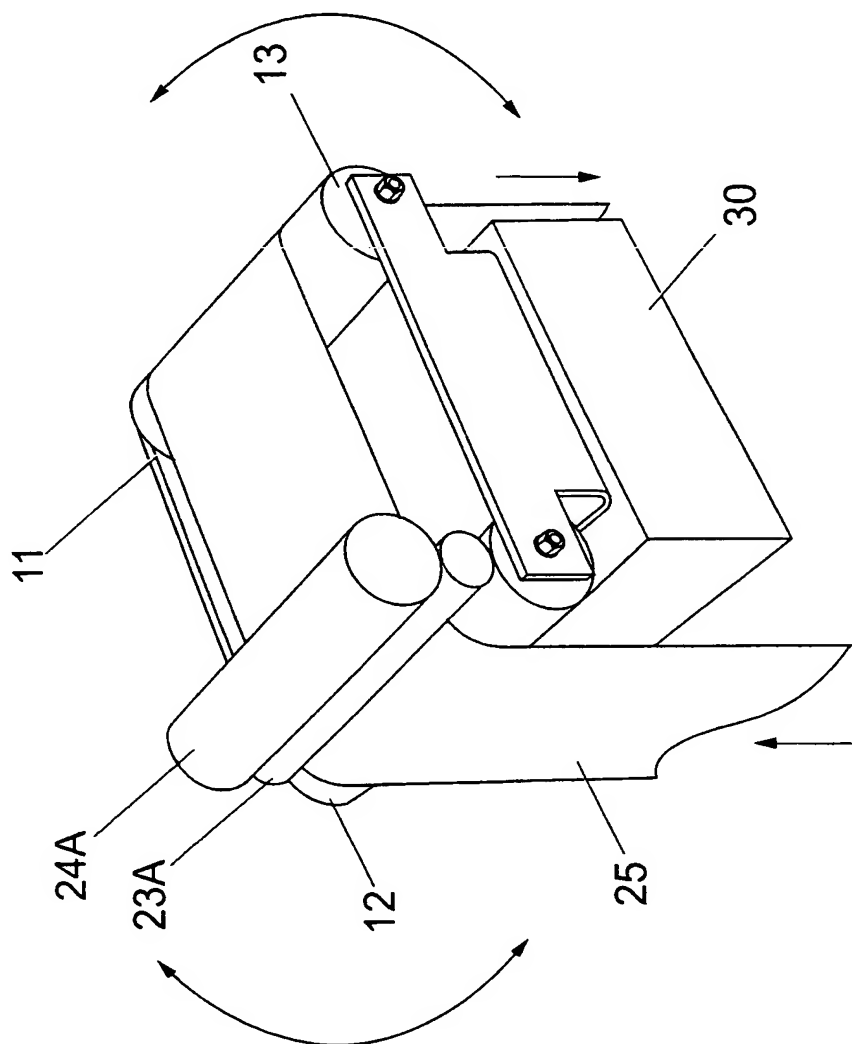


Fig. 5

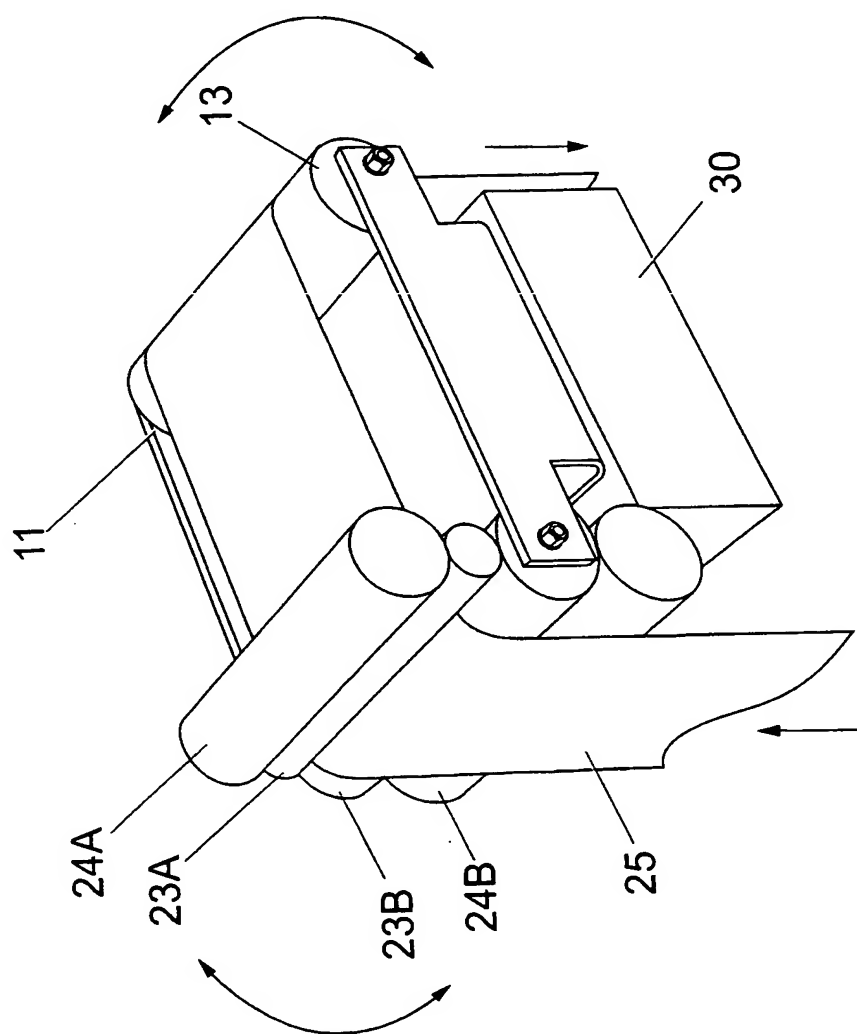


Fig. 6

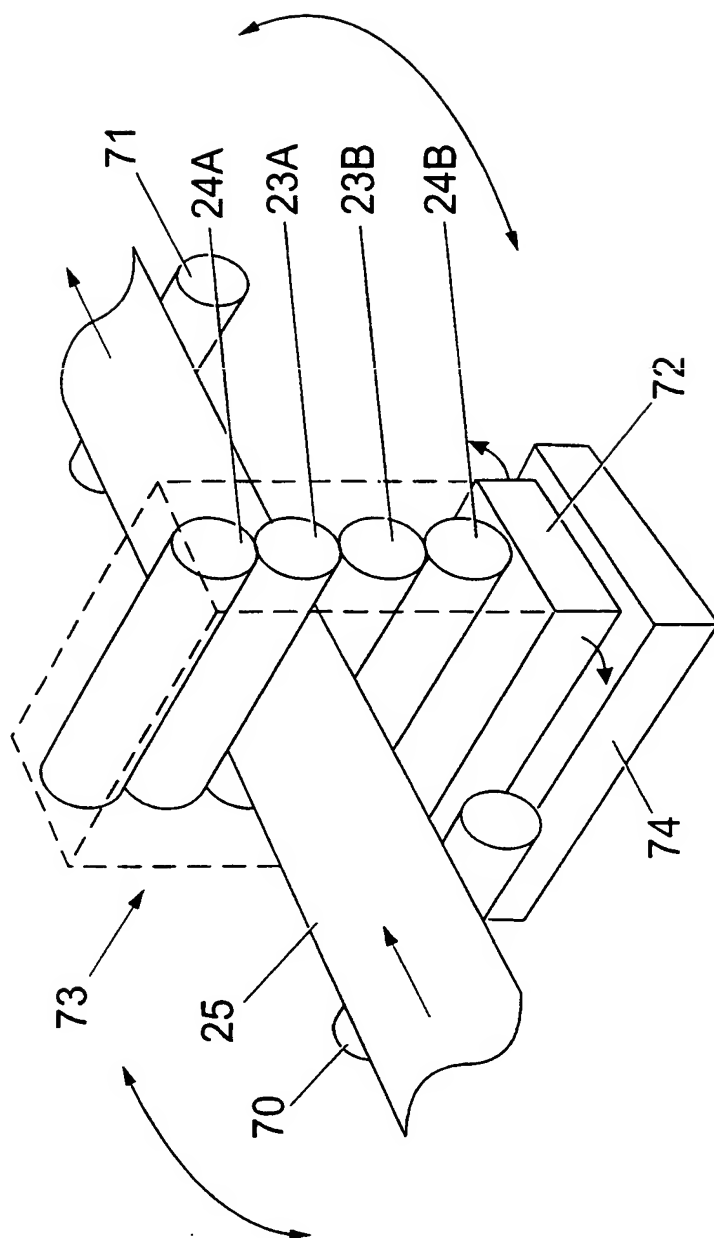


Fig. 7

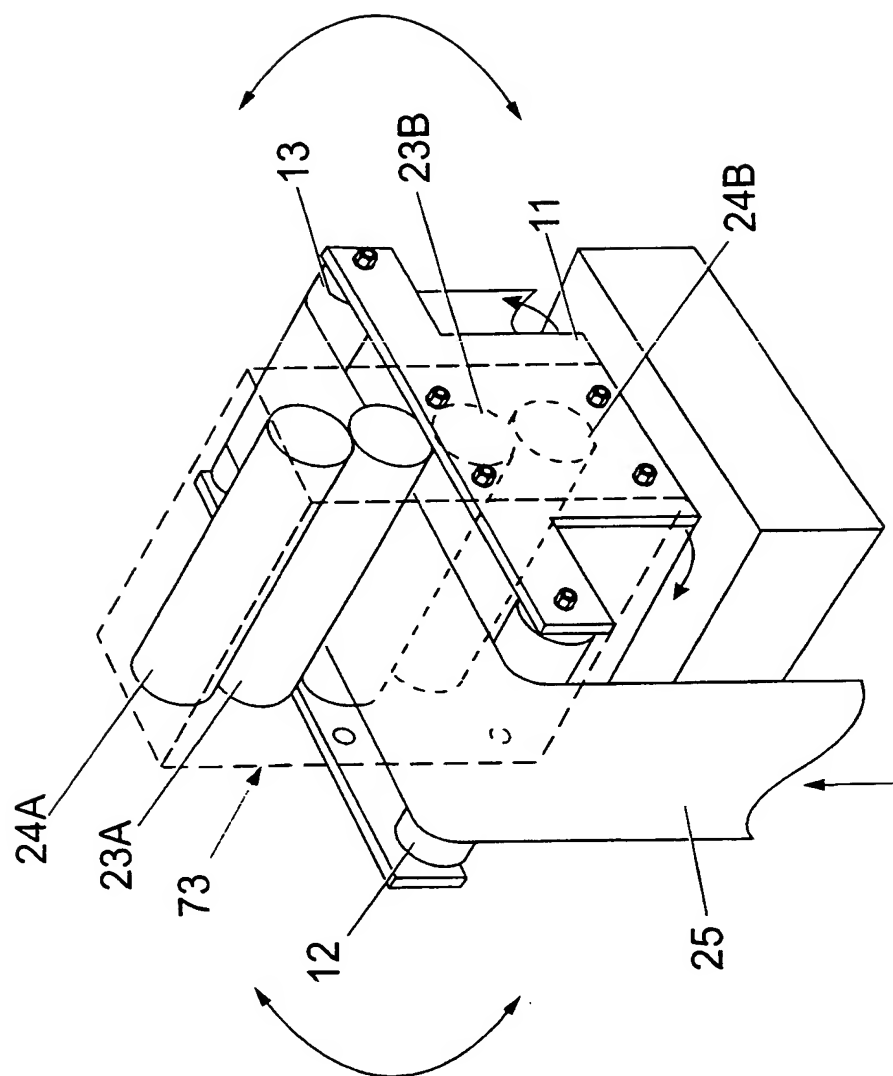


Fig. 8

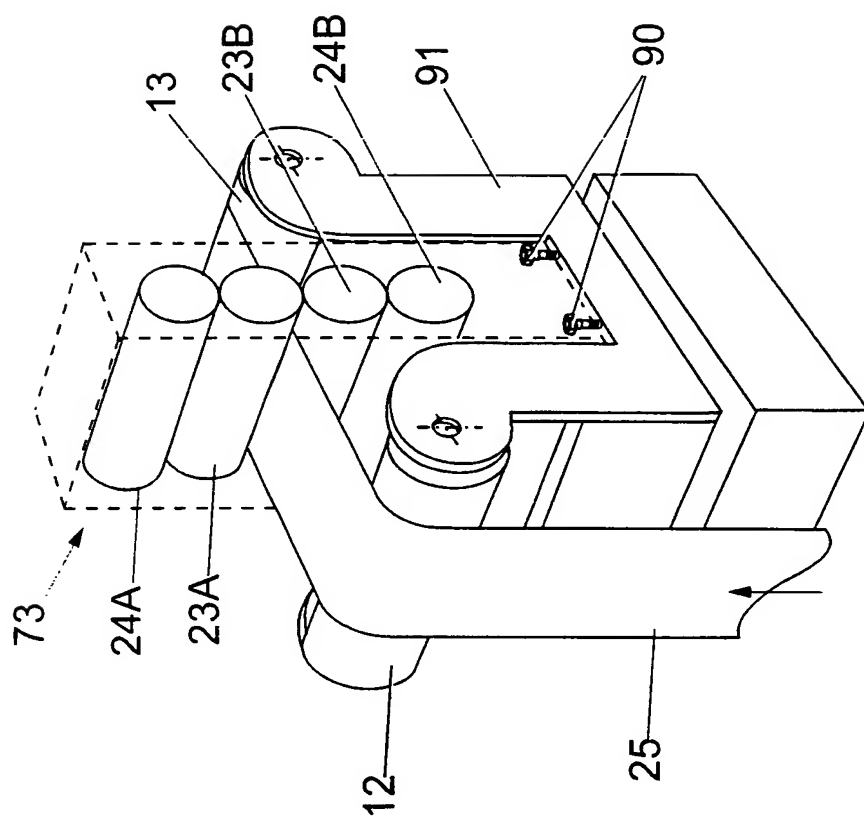


Fig. 9

INTERNATIONAL SEARCH REPORT

Intern: al Application No

PCT B 00/03413

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B65H23/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B65H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 572 417 A (JOSEPH BRIAN J ET AL) 25 February 1986 (1986-02-25) column 2, line 65 -column 3, line 8 column 3, line 45 -column 4, line 35; figures	1
A	----- US 5 387 962 A (CASTELLI VITTORIO ET AL) 7 February 1995 (1995-02-07) column 5, line 23 - line 24 column 6, line 39 - line 43 column 8, line 3 - line 22 column 8, line 44 -column 9, line 33; figures	2,5,6,8, 9
A	----- US 4 344 693 A (HAMAKER RALPH A) 17 August 1982 (1982-08-17) column 4, line 8 - line 19 column 5, line 32 - line 39; figures	1

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
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Information on patent family members

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